

IN THE DRAWINGS:

Please enter the attached corrected drawings Figs. 1-2 and 9, wherein in Figs. 1-2 a legend of "Prior Art" is being added, and in Fig. 9 "RETIO" is being corrected to "RATIO", to replace Figs. 1-2 and 9 as originally filed. A Letter to Draftsperson is also submitted herewith.

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated October 5, 2005. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 5-6 and 10-13 are under consideration in this application. Claim 13 is being added to recite another embodiment described in the specification, especially p. 2, last paragraph. All the amendments to the specification and the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejections

Claims 5-6 and 10-12 were rejected under 35 USC § 103(a) as being unpatentable over US Patent No. 5,608,417 to de Vall (hereinafter "Vall") in view of US Patent No. 5,517,179 to Charlot. Jr. (hereinafter "Charlot"). The above rejection has been carefully considered, but is most respectfully traversed.

The contactless identification of the invention (for example, the embodiment depicted in Figs. 5-6;; pp. 6-7, 11-13), as recited in claim 5, comprises: an antenna coil 1; a first capacitor 7; and an IC chip 3 connected to said antenna coil 1 *in series* through said first capacitor 7, said first capacitor 7 having a capacitance C1 smaller than an input capacitance Cin 3A of said IC chip 3 which is formed with variations due to manufacturing factors (p. 6, lines 24-25), the capacitance C1 of said first capacitor 7 complimenting to said input capacitance Cin 3A of said IC chip 3 to provide a desired resonant capacitance ("even if the IC chip has a large input capacitance, the capacitor connected in series with the IC chip can make the overall resonant capacitance equivalently smaller" p. 6, last line to p. 7, line 1).

The invention solves a prior art problem by connecting the IC chip 3 in series with the antenna coil 1 through a capacitor 7. In the prior art, while a certain manufacturing accuracy can be maintained for the inductance of the antenna coil 1, the capacitor 2 formed of the metallic pattern, or the capacitance as a discrete part, the capacitance between connection terminals of the IC 3 and the antenna coil 1, and the capacitance 3A of the IC chip 3 itself

inevitably experience variations in a range of 20 % to 30 % due to a variety of factors in the manufacturing. The variations directly affect the resonant frequency as well as the power reception efficiency and communication distance (p. 4, lines 3-13).

According to the invention, the capacitance C1 of the capacitor 7 is smaller than the input capacitance Cin 3A of the IC chip 3. The invention allows the inductance of the antenna coil 1 and the capacitance C1 of the capacitor 7 to predominantly act on the resonant frequency, which inexpensively and significantly reduces the influence on the resonant frequency exerted by variations in the input capacitance 3A of the IC chip 3 due to certain manufacturing factors (p. 6, line 17 to p. 7, line 12; p. 11, line 15 to p. 12, line 9). For example, *“even if the [input] capacitance of the IC chip varies by $\pm 30\%$, the influence on the resonant frequency is largely reduced to approximately $\pm 1\%$ (p. 13, lines 23-25).”*

Applicants contend that the cited references fail to teach or suggest such a “first capacitor 7 (1) connecting between an IC chip 3 and said antenna coil 1 *in series*, and (2) having a capacitance C1 smaller than an input capacitance Cin 3A of said IC chip 3 which is formed with variations due to manufacturing factors, the capacitance C1 of said first capacitor 7 complimenting to said input capacitance Cin 3A of said IC chip 3 to provide a desired resonant capacitance” according to the invention.

As admitted by the Examiner (p. 4, last paragraph of the outstanding Office Action), Vall does not provide a first capacitor 7 having a capacitance smaller than an input capacitance of said IC chip. Charlot was relied upon by the Examiner to compensate for such a deficiency. Charlot discloses a battery-less, portable frequency divider which is highly efficient to be detectable over a large range and is stable in sensitivity (or detection range) using a variable capacitance element and a three-terminal semiconductor switching device (col. 1, lines 66 to col. 2, line 56).

However, Charlot merely varies a variable capacitor to change/vary a resonant frequency of the series resonant circuit (p. 5, lines 1-3 of the outstanding Office Action) depending upon a received frequency (*“The variation of the capacitance of the variable capacitance element in response to variations in energy in the higher-frequency resonant circuit resulting from receipt electromagnetic radiation at the first frequency causes the lower-frequency resonant circuit to transmit electromagnetic radiation at the second frequency.”* Abstract of Charlot), rather than providing “a first capacitor 7 being smaller than and complimenting to an input capacitance Cin 3A of said IC chip 3, which is formed with

variations due to manufacturing factors, to provide a desired/fixed resonant capacitance/frequency” according to the invention.

Applicants contend that one skilled in the art will not be motivated to look into Charlot since the resulting change in the principle of operation (from changing/varying a resonant frequency to provide a desired/fixed resonant capacitance/frequency) of the series resonant circuit will contradict Charlot’s intended purpose. It is well established that a rejection based on cited references having principles that teach away from the invention is improper.

Vall shares the same problem. Vall disclose a transponder system in which a distributed inductance and capacitance that is characterized by multiple parallel and series resonant frequencies is produced and an transponder circuit is designed to respond to the fundamental parallel resonant frequency, at which maximum voltage is generated by the transponder winding, but to transmit information signal back to the exciter/reader at a series resonant frequency at which the current on the transponder winding is maximized, thus maximizing the strength of the return signal (col. 2, lines 21-41, esp. lines 26-34). Vall’s transponder also varies the transmission frequency or the resonant capacitance to an optimum value depending upon a received frequency.

In addition, since Charlot changes/varies a resonant frequency of the series resonant circuit depending upon a received frequency, it can set the first capacitor having a capacitance either smaller or bigger than an input capacitance of the IC chip, rather than just being smaller, as in the invention. One skilled in the art could not set a capacitance of the first capacitor as claimed by the Applicants based on the above prior teachings except by using Applicants’ invention as a blueprint. Applicants will point out that a rejection based on hindsight knowledge of the invention at issue is also improper.

Contrary to the Examiner’s assertion that setting the capacitance of the capacitor being smaller than the input capacitance of the IC chip is merely “a matter of obvious design choice (p. 4, last paragraph of the outstanding Office Action),” Applicants contend that the invention applies the condition on a “first capacitor 7 connecting between an antenna coil 1 and an IC chip 3 *in series*, and an input capacitance C_{in} 3A of said IC chip 3 which is formed with variations due to manufacturing factors, to achieve unexpected results or properties. For example, to compliment to said input capacitance C_{in} 3A of said IC chip 3, which is formed with variations due to manufacturing factors, to provide a desired resonant

capacitance. The presence of these unexpected properties is evidence of nonobviousness. MPEP§716.02(a).

“Presence of a property not possessed by the prior art is evidence of nonobviousness. In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (rejection of claims to compound structurally similar to the prior art compound was reversed because claimed compound unexpectedly possessed anti-inflammatory properties not possessed by the prior art compound); Ex parte Thumm, 132 USPQ 66 (Bd. App. 1961) (Appellant showed that the claimed range of ethylene diamine was effective for the purpose of producing " 'regenerated cellulose consisting substantially entirely of skin' " whereas the prior art warned "this compound has 'practically no effect.' ").

Although “[t]he submission of evidence that a new product possesses unexpected properties does not necessarily require a conclusion that the claimed invention is nonobvious. In re Payne, 606 F.2d 303, 203 USPQ 245 (CCPA 1979). See the discussion of latent properties and additional advantages in MPEP § 2145,” the unexpected properties were unknown and non-inherent functions in view of Charlot, since Charlot does not inherently achieve the same results. In other words, these advantages would not flow naturally from following the teachings of Charlot, since Charlot fails to suggest applying a first capacitor 7 connecting between an antenna coil 1 and an IC chip 3 *in series*, and an input capacitance Cin 3A of said IC chip 3 which is formed with variations due to manufacturing factors.

As mentioned, conventionally, the coupling portions of coupled capacitors are disconnected (trimmed) to adjust the static capacitance of the capacitor to adjust the tuning of the circuit (see the text, page 2, concerning JP-A-11-353440). “To provide a desired resonant capacitance with a first capacitor 7 (1) connecting between an IC chip 3 and said antenna coil 1 *in series*, and (2) having a capacitance C1 smaller than an input capacitance Cin 3A of said IC chip 3 which is formed with variations due to manufacturing factors, the capacitance C1 of said first capacitor 7 complimenting said input capacitance Cin 3A of said IC chip 3” is not a matter of obvious design choice.

Applicants further contend that the mere fact that one of skill in the art could rearrange Charlot to meet the terms of the claims is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for one skilled in the art to provide the unexpected properties, such as “to compliment to said input capacitance

Cin 3A of said IC chip 3, which is formed with variations due to manufacturing factors, to provide a desired resonant capacitance", without the benefit of appellant's specification, to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). MPEP§2144.04 VI C.

Applicants contend that the cited references or their combinations fail to teach or disclose each and every feature of the present invention as disclosed in the independent claim 5. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

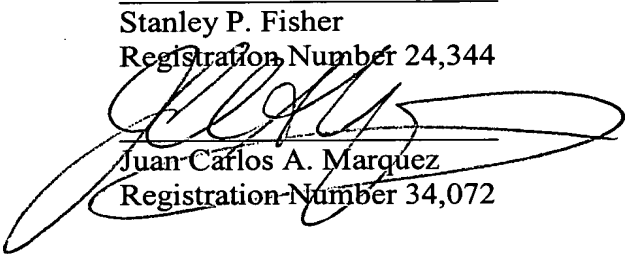
Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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